

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF OHIO

MARK TURNER,

Plaintiff,

VS.

LIBERTY MUTUAL FIRE  
INSURANCE CO.,

Defendant.

CASE NO. 4:07-cv-00163

OPINION & ORDER  
[Resolving Docs. No. 46, 67.]

JAMES S. GWIN, UNITED STATES DISTRICT JUDGE:

Plaintiff Mark Turner moves the Court to exclude the testimony of Defendant Liberty Mutual Fire Insurance Co.'s ("Liberty Mutual") proffered fact and expert witness, Harold Franck, under Federal Rule of Evidence 702 and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). [Doc. 46.] Defendant Liberty Mutual opposes Plaintiff's motion in limine. [Doc. 67.]

In this action, Mark Turner sues his insurer, Liberty Mutual, on two counts. [Doc. 8.] First, he claims that Defendant breached the insurance contract between the two parties when it failed to pay insurance proceeds to Plaintiff after a fire destroyed his home.[*Id.*] Second, he argues that Defendant's refusal to pay was in bad faith. [*Id.*] Liberty Mutual counterclaims for \$111,040.15, the value of the payment Liberty Mutual made to pay off Turner's mortgage following the fire. [Doc. 12.]

The Defendant intends to call Harold Franck as a fact and expert witness at trial. [Doc. 67.] Liberty Mutual says it offers Franck's testimony for two purposes. [*Id.*] In 2006, Franck wrote a

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report ("original report") concluding that "the fire evolution could not have developed as rapidly as it did without the introduction of accelerants into the floor surfaces of the home," and therefore, the fire was "incendiary." [Doc. 67, Exhibit 3.] Liberty Mutual says it will solicit Franck's testimony regarding this report in defense of Plaintiff's bad faith claim. In 2007, Franck wrote another report ("subsequent report") based on various computer simulations; again, he concluded, "[T]his fire must still be classified as incendiary." [Doc. 67, Exhibit 4.] Liberty Mutual say it will offer testimony consistent with this report in defense of Plaintiff's contract claim.

The Court **DENIES** Plaintiff's motion in limine by allowing Franck to testify at trial; however, the Court prohibits Franck from testifying with regard to his original report except as to background information relevant to Plaintiff's bad faith claim.

### **I. Legal Standard**

Under Federal Rule of Evidence 702, a qualified witness's testimony based on specialized knowledge is admissible if it "will assist the trier of fact to understand the evidence or to determine a fact in issue." FED. R. EVID. 702. The Rule sets three additional prerequisites to admissibility:

- (1) the testimony must be "based upon sufficient facts or data,"
- (2) the testimony must be "the product of reliable principles and methods," and
- (3) the witness must have "applied the principles and methods reliably to the facts of the case."

*Id.*

In *Daubert*, the Supreme Court established the standard for admissibility of scientific expert testimony under Rule 702. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). The requirement that "any and all scientific testimony or evidence admitted [be] not only relevant, but reliable," *id.* at 589, "entails a preliminary assessment of whether the reasoning or methodology

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underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue." *Id.* at 592-93.

Under *Daubert*, the Court provides several (non-exclusive) factors to consider in determining reliability:

- (1) whether the theory or technique "can be (and has been) "tested";
- (2) whether it has been "subjected to peer review and publication";
- (3) "the existence and maintenance of standards controlling the technique's operation";
- (4) the theory or technique's "known or potential error rate"; and
- (5) its "general acceptance" in "a relevant scientific community."

*Daubert*, 509 U.S. at 593-94. In short, courts must rely on "the soundness of the expert's methodology." *Knotts v. Black and Decker*, 204 F. Supp. 2d 1029, 1038 (N.D. Ohio 2002) (citing *Smelser v. Norfolk Southern Ry. Co.*, 105 F.3d 299, 303 (6th Cir. 1997)).

## **II. Analysis**

As described above, Rule 702 and *Daubert* require an inquiry into both relevance and reliability. Franck proposed testimony gives relevant evidence, as it deals with the cause of the fire, a core issue in this case. Therefore, the Court focuses its analysis on the parties' dispute as to the reliability of Franck's methodologies. The Court will analyze the reliability of Franck's original report and his subsequent report separately.

### **A. Testimony Regarding Original Report**

Plaintiff challenges Franck's original report and its underlying methodology, and Defendant does not respond. Therefore, the Court will not permit testimony involving methodology used with the original report unless the use is for the purpose of background information relevant to Plaintiff's

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bad faith claim.

Plaintiff raises several concerns specifically regarding Franck's original report. Plaintiff claims Franck's first report relies on insufficient facts and data because Franck failed to consider relevant variables and relied on inaccurate assumptions and "rough estimates." [Doc. 46.] For example, while Franck failed to consider certain relevant causation variables such as "ventilation, e.g. affect of open doors or windows in the house on the progress or spread of the fire" in his first report, "Franck testified that he did, however take such factors into account in his second report . . ." [Doc. 46.] Plaintiff also challenges Franck's use of "rough calculations" and inaccurate assumptions with regard to the heat release ratio and timing assumptions. [*Id.*]

Defendant Liberty Mutual provides no argument that Franck's original report and its underlying methodology meet the reliability test established in Rule 702 and *Daubert*. Instead, Liberty Mutual replies: "Plaintiff's Motion in Limine spends a significant portion of time attacking the opinions of Franck's original report. As mentioned, however, Franck's expert opinion at trial will be largely that expressed in the subsequent report, based on the NIST FDS simulations." [Doc. 67.]

Because Defendant does not contest Plaintiff's critique of the original report, the Court will only permit testimony involving it as general background relevant to Plaintiff's bad faith claim.

#### **B. Testimony Regarding Subsequent Report Based on Computer Simulation**

Liberty Mutual provides the Court with ample evidence that Franck's testimony regarding his subsequent report based on computer simulations is reliable; thus, the Court will allow this testimony.

Franck's subsequent report derives from computer simulations. [Doc. 67.] The simulations

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utilize the National Institute of Standards and Technology (NIST) Fire Dynamics Simulator (FDS) (Version 4.0). [*Id.*] NIST acts as an agency of the United States Department of Commerce tasked with investigating and determining the causes of building failure. [*Id.*]

FDS is described in NIST Special Publication 1018 ("Publication 1018"). [Doc. 67, Exhibit 6.] This publication includes three pages of peer reviews and lists 152 bibliography sources from which the technical data has been drawn. [*Id.*]

As a preliminary matter, the Court finds Franck qualified to testify on this matter. With a Bachelor of Science and Master's degree in electrical engineering, he is the President of Advanced Engineering Associates, Inc., a registered professional engineer in six states, and the author of over twenty publications, including several relating to fire loss. [Doc. 67, Exhibit 1.] He has testified over forty times in federal and state courts, and he is a member of several fire investigation committees and groups, including the national and state levels of the International Association of Arson Investigators. [Doc. 67, Exhibits 1, 2.]

Franck's NIST FDS simulation satisfies the *Daubert* standard governing expert testimony reliability. First, the software has been tested. *See Daubert*, 509 U.S. at 593. The Acknowledgments section of Publication 1018 lists various individuals who have "conducted a number of small and large scale experiments to validate FDS." [Doc. 67, Exhibit 6.] For example, the NIST FDS software was used to run simulations of the fires at the World Trade Center. [Doc. 67, Exhibit 7.] The September 2005 Computer Simulation of the Fires in the World Trade Center Towers Abstract states, "[T]he model was validated by comparing its predictions with measurements from a series of large scale experiments performed at NIST." [*Id.*]

The software has been adequately subject to peer review and publication. *See Daubert*, 509

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U.S. at 593. As mentioned above, Publication 1018's Acknowledgment section includes three pages of peer reviews and contributions while its bibliography lists 152 sources from which the technical data has been drawn. [Doc. 67, Exhibit 6.]

Third, the software has known error rates for the Court to consider. *See Daubert*, 509 U.S. at 593. NIST FDS cautions that two components of its calculations--flow velocities and temperatures--have error rates of 5-20%. [Doc. 67.] However, Plaintiff notes the 5-20% figure does not represent an overall error rate, and this matter is appropriately raised in cross-examination. [*Id.*]

Finally, Franck's computer simulation methodology is "generally accepted" by the "relevant scientific community." *See Daubert*, 509 U.S. at 594. The National Fire Protection Association 921 Guide for Fire and Explosion Investigations ("NFPA 921") is a "recognized guide for assessing the reliability of expert testimony in fire investigations." *E.g. Indiana Ins. Co. v. General Elec. Co.*, 326 F. Supp. 2d 844, 849 (N.D. Ohio 2004). NFPA 921 comments on Franck's methodology, the Computational Fire Dynamics (CFD) model: "The use of CFD models in fire investigation and related litigation, however, is increasing. CFD models are particularly well suited to situations where the space or fuel configuration is irregular . . . or where very fine detail is sought." [Doc. 67, Exhibit 10.] Moreover, NFPA 921 confirms the appropriateness of Franck's application of the model: as recommended by NFPA 921, he compared the results of the simulation to "physical and eyewitness evidence [photographs] to support or refute the hypothesis." [Doc. 67.]

Perhaps the best evidence of the software's acceptance is its use in three recent nationally-recognized fires: the World Trade Center collapse, the Rhode Island nightclub fire, and the South Carolina sofa store fire. [Doc. 67.]

While the Court finds the subsequent report sufficiently reliable under Rule 702 and

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*Daubert*, the Court leaves the ultimate determination of the weight due to Franck, his conclusions and his second report to the jury. The proper forum for Plaintiff Turner's remaining challenges to Franck is cross-examination: "Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." *Daubert*, 509 U.S. at 596.

### **III. Conclusion**

For these reasons, the Court **DENIES** Plaintiff Turner's motion in limine to exclude the testimony of Harold Franck; however, the Court prohibits testimony relating to Franck's original report except as to provide general background regarding Plaintiff's bad faith claim.

IT IS SO ORDERED.

Dated: September 14, 2007

s/ *James S. Gwin*  
JAMES S. GWIN  
UNITED STATES DISTRICT JUDGE